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10/534,899	03/01/2006	Phillip Albert Cohen	38219	1877

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EXAMINER	
PHAM, LAM P	

ART UNIT	PAPER NUMBER
2612	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/534,899	COHEN, PHILLIP ALBERT	
	Examiner	Art Unit	
	LAM P. PHAM	2612	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 May 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-14* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *13 May 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-5, 9-14 are rejected under 35 U.S.C. 102 (b) as being anticipated by **Sharpe** et al. (US 5228337).

Re claim 1, Sharpe disclose a vehicle tire data monitoring system comprising a wheel mounted sensor means (20) adapted to transmit pressure and temperature for a tire as a digital serial datagram through a two-wire communication channel to a chassis mounted reader means (aircraft onboard computer), the communication channel being adapted to simultaneously supply power to the sensor means and receive the data for processing and subsequent display to a user of the system as seen in Figures 1-6; col. 4, lines 31-67 , col. 5, lines 1-68, col. 6, lines 1-68, col. 7, lines 1-68 and col. 8, lines 1-48.

Re claim 2, Sharpe disclose the sensor means comprises a three or more terminal sensor subsystem (sensor cell 21) having at least separate ground (not shown), power and data connections (25-28, see Figure 2) which is converted to a two terminal sensor subsystem (sensor 20 output at 34) for transmitting the data across the

communication channel (36) to the reader means, with a first terminal being for a ground connection and a second terminal (37) being for a combined power and data connection (figure 6) as seen in Figures 1, 2, 5 and 6; col. 4, lines 31-68; col. 5, lines 1-15; col. 7, lines 20-35.

Re claim 3, Sharpe disclose the two- wire communication channel superimposes the transmission of the data on the power connection as a serial datagram that is received by the receiving means as seen in col. 5, lines 1-15.

Re claim 4, Sharpe disclose the datagram is decoded by the reader means to provide decoded information that is made available to a microprocessor system for analysis and display of the tire data to a user of the system as seen in col. 5, lines 1-38.

Re claim 5, Sharpe disclose a two-wire communication channel for a vehicle tire data monitoring system, the channel including continuous contacting means (primary coil 38 and secondary coil 37 of transformer 36) for communicating (inductive contact) between a sensor means (20) mounted on a wheel of the vehicle and a reader means (aircraft computer) mounted on a chassis of the vehicle, and being adapted to transmit one or more of pressure, temperature as a digital serial datagram from the sensor means to the reader means and to supply power from the reader means to the sensor means, the supply of power being simultaneous with the transmission and reception of the data, wherein the communication channel includes a rotational coupling means having a first part (secondary coil 37) mounted on a rotatable rim for the wheel and a second part (primary coil 38) mounted on a non-rotating component of a hub for the

wheel, the first and second parts providing a contacting, two wire communication channel for the data monitoring system as seen in figures 1-6; col. 4, lines 31-67 , col. 5, lines 1-68, col. 6, lines 1-68, col. 7, lines 1-68 and col. 8, lines 1-48.

Re claim 9, Sharpe disclose a two-wire communication channel for a vehicle tire data monitoring system, the channel including electromagnetic transforming means (36) for communicating between a sensor means (21 of 20) mounted on a wheel of the vehicle and a reader means (aircraft computer) mounted on a chassis of the vehicle, and being adapted to transmit pressure, temperature for a tire as a digital serial datagram from the sensor means to the reader means and to supply power from the reader means to the sensor means, the supply of power being simultaneous with the transmission and reception of the data, wherein a first part (secondary coil 37) of the electromagnetic transforming means is mounted annularly on a rim of the wheel and a second part (primary coil 38) of the electromagnetic transforming means is mounted on a non-rotating component (axle) of a hub for the wheel, the first and second parts being divided by an air gap and providing a non-contacting, two wire communication channel, for the data monitoring system as seen in Figures 1-6; col. 4, lines 31-67 , col. 5, lines 1-68, col. 6, lines 1-68, col. 7, lines 1-68 and col. 8, lines 1-48.

Re claim 10, Sharpe disclose an electromagnetic coupling (transformer 36) in a two-wire communication channel for a vehicle tire data monitoring system, the electromagnetic coupling comprising a first part (secondary coil 37 and sensor 20) mounted annularly on a rim of a wheel of the vehicle, and a second part (primary coil 38) mounted on a non-rotating component of a hub for the wheel, the first part and the

second part being adapted to maintain electromagnetic induction therebetween during rotation of the wheel for the transmission of decodable data for the tire from a sensor means (20) mounted on the wheel to a reader means (aircraft onboard computer) mounted on the chassis as seen in Figures 1-6; col. 4, lines 31-67 , col. 5, lines 1-68, col. 6, lines 1-68, col. 7, lines 1-68 and col. 8, lines 1-48.

Re claim 11, Sharpe disclose the second part comprises a receiver coil (primary coil 38) mounted on a non-rotating component (axle) of a hub for the wheel, and the first part comprises a sensor coil (secondary coil 37 and sensor 20) so mounted annularly on the rim of the wheel as to maintain a constant and sufficiently proximate distance to the receiver coil during rotation of the wheel for electromagnetic induction to occur as seen in Figure 6; col. 7, lines 20-35.

Re claim 12, Sharpe disclose the sensor coil includes a power supply circuit (PCB 32) and derives power to operate the sensing and transmission of the data from an electromagnetic flux generated by the receiver coil serving as a power connection, the electromagnetic flux causing the power supply circuit of the sensor coil to develop sufficient DC voltage (reference voltage) to enable the sensor means to be energized and to transmit the data to the reader means, the data being adapted to modulate the electromagnetic flux so as to superimpose the transmission of the data on the power connection as a serial datagram, the so modulated signal being detected and decoded by the reader means to enable the data to be processed and displayed to a user of the system as seen in col. 4, lines 31-68 and col. 5, lines 1-59.

Re claim 13, Sharpe disclose the second part comprises a receiver coil mounted on a non-rotating component of a hub for the wheel, and the first part comprises a sensor coil so mounted annularly on the rim of the wheel as to maintain a constant and sufficiently proximate distance to the receiver coil during rotation of the wheel for electromagnetic induction to occur as seen in Figure 6; col. 7, lines 20-35 and claim 11 for explanation.

Re claim 14, Sharpe disclose the sensor coil includes a power supply circuit (PCB 32) and derives power to operate the sensing and transmission of the data from an electromagnetic flux generated by the receiver coil serving as a power connection, the electromagnetic flux causing the power supply circuit of the sensor coil to develop sufficient DC voltage to enable the sensor means to be energized and to transmit the data to the reader means, the data being adapted to modulate the electromagnetic flux so as to superimpose the transmission of the data on the power connection as a serial datagram, the so modulated signal being detected and decoded by the reader means to enable the data to be processed and displayed to a user of the system as seen in col. 4, lines 31-68 and col. 5, lines 1-59 and claim 12 for explanation.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 6-8 are rejected under 35 U.S.C. 103 (a) as being unpatentable over Sharpe et al. in views of **Chamussy** et al. (US 5583482).

Re claim 6, Sharpe disclose a continuous coupling in a two-wire communication channel for a vehicle tire data monitoring system, the continuous coupling comprising a first part (secondary coil 37) mounted on a rotatable rim of a wheel of the vehicle, and a second part (primary coil 38) mounted on a non-rotating component (axle) of a hub for the wheel, the first part and the second part being adapted to maintain continuous inductive contact therebetween during rotation of the wheel for the transmission of decodable data for the tire from a sensor means mounted on the wheel to a reader means mounted on the chassis as seen in claim 5 for explanation. However, Sharpe fail to teach a continuous electrical contact in place of the inductive contact.

Chamussy in same field of endeavor teach of tire monitoring system suggesting that an electric connection between sensor (17) and conductors (21) can be of inductive type or galvanic type as seen in Figures 1 and 3; col. 3, lines 35-43.

In view of Chamussy teaching regarding an electrical connection between a sensor and a conductor can be of inductive type, it would have been obvious to one of ordinary skilled in the art to realize that the inductive contact of Sharpe equivalently provide an electrical contact for power and data communication between the sensor means and the reader means.

Re claim 7, Sharpe disclose a vehicle wheel to hub inductive mating interconnection in a tire data monitoring system for the transmission there across of one or more of pressure, temperature for a tire mounted on the wheel, the mating interconnection comprising a first part mounted on a rotatable rim of the wheel and adapted to receive the data from a sensor means, and a second part mounted on a non-rotating component of a hub for the wheel, the second part being adapted to mate with the first part when the wheel is mounted on the hub so as to allow the data to be transmitted from the first part to the second part, the second part being further adapted to transmit the data to a reader means mounted on a chassis of the vehicle for processing and subsequent display to a user of the system as seen in claim 5 for explanation. However, Sharpe fail to teach an electrical mating interconnection in place of the inductive mating interconnection.

Chamussy in same field of endeavor teach of tire monitoring system suggesting that an electric connection between sensor (17) and conductors (21) can be of inductive type or galvanic type as seen in Figures 1 and 3; col. 3, lines 35-43.

In view of Chamussy teaching regarding an electrical connection between a sensor and a conductor can be of inductive type, it would have been obvious to one of ordinary skilled in the art to realize that the inductive mating interconnection of Sharpe equivalently provide an electrical mating interconnection for power and data communication between the sensor means and the reader means.

Re claim 8, Sharpe would disclose the mating of the first part with the second part occurs automatically during the mounting of the wheel on the hub, and demating occurs automatically during dismounting of the wheel from the hub such that monitoring is continuous while the vehicle power system is on as seen in col. 4, lines 25-30.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LAM P. PHAM whose telephone number is (571)272-2977. The examiner can normally be reached on 10AM-7PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, GEORGE A. BUGG can be reached on 571-272-2998. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

July 14, 2008

Lam P Pham
Examiner
Art Unit 2612

/George A Bugg/

Acting SPE of Art Unit 2612